To: Way, Steven[way.steven@epa.gov]
From: Personal Email/Ex. 6
Sent: Thur 4/3/2014 8:25:36 PM
Subject: Fwd: New EPA Publication: Treatment of Mining-Influenced Water

Steve - FYI.

Begin forwarded message

Thanks Bruce. That's very helpful.

Sent from my iPad

On Apr 3, 2014, at 11:36 AM, "Stover - DNR, Bruce" <bruce.stover@state.co.us> wrote:

Peter,

In 2007 I walked the surface trace of the Bonita Fault from the Lead Carbonate mine all the way over into upper Cement Creek, just south of the Mogul mine, as it is depicted in USGS PP 535 *(1969, Burbank and Luedke, Geology and ore deposits of the Eureka and adjoining districts, San Juan Mountains, CO)*.
This is when I was working on that structural report for ARSG on the Red and Bonita.

The fault trace is tough to follow or even see on surface, and is way up high and dry running just below the crest of the ridge separating Cement Creek from Eureka Gulch. In most places it's nothing more than strands of mineralized veins in a zone of quartz, and sometimes you can see (or think you can see) a difference in petrology (rock type) from one side to the other, but that is tough to pick out as well, due to alteration and fracturing. I'm not sure I even agree with the plotted location in some places, as it is shown on the map in PP-535.

Where it crosses the ravine at the head of the avalanche chute running down through the Gold King its tight, hard to find, and nothing really obvious except a mineralized/stained zone in the Burns formation.

At one place this zone of minerlized veins has a dip ~75 degrees northeast away from Cement Creek Drainage, right where it cuts perpendicularly across the Gold King vein Structure... so I am pretty sure I found the location as it is plotted on the map in PP-535. There are a bunch of shallow prospect pits and cuts on the veins here, but all dry and not really of any note. Veins looked pretty tight, and its very high up on the ridge at 12,500 ft.

I didn't see any places on surface where there was any obvious major surface water infiltration, even in the short section across the ravine, and believe water in this large-scale graben-bounding fault structure and the other structures it is connected to is sourced mostly from area or regional groundwater, and not so much from direct or rapid interception of surface flows.

That being said, it is a wonderful and spectacular traverse...very enjoyable, and I would certainly do it again with anyone who wanted to see it. You get dropped off at the Pb-Carbonate and picked up later at the Mogul.

Good seeing everyone the other day.

Best,

On Thu, Apr 3, 2014 at 9:25 AM, Peter Butler <Personal Email/Ex. 6> wrote:

> Thanks Bruce. We saw this several weeks ago. I used to help develop the list of technologies for last Tuesday.
>
> Thanks so much for your help on Tuesday.
>
> On another note, have you ever followed the fracture zone we refer to as the Bonita fault in upper Cement Creek? I wondering if we should walk it on the surface and see if there is anywhere obvious where a lot of water might get into it.
>
> Peter Butler
>
> 970-259-0986
>
> Cell Personal Phone/Ex. 6

From: Stover - DNR, Bruce [mailto:bruce.stover@state.co.us]
Sent: Wednesday, April 02, 2014 9:15 AM
To: Peter Butler; Bill Simon
Subject: New EPA Publication: Treatment of Mining-Influenced Water

Timing is everything.

This just out in the latest Tech Direct email:

http://clu-in.org/download/techdrct/reference_guide_to_treatment_technologies_for_miw.pdf

Reference Guide to Treatment Technologies for Mining-Influenced Water (EPA 542-R-14-001). This report highlights select mining-influenced water (MIW) treatment technologies used or piloted as part of remediation efforts at mine sites. It is intended to provide information on treatment technologies for MIW to federal, state and local regulators, site owners and operators, consultants, and other stakeholders. Included in the report are short descriptions of treatment technologies and information on the contaminants treated, pre-treatment requirements, long-term maintenance needs, performance, and costs. Sample sites illustrate considerations associated with selecting a technology. Website links and sources for more information on each topic are also included (March 2014, 94 pages). View or download at http://clu-in.org/techpubs.htm

Great to see you guys yesterday, and thanks for the great meal and evening!

Safe travels.

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Bruce K. Stover
Director
Inactive Mine Reclamation Program

<image001.jpg>

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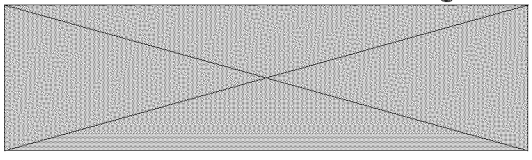
Bruce K. Stover
Director
Inactive Mine Reclamation Program



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